Comparisons of Job Characteristics

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Agricultural Engineers (17-2021)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 46

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Agricultural Engineers (17-2021)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Engineering and Technology	5.7	23.4	13.9	<<	Extensive education and/or training may be required
Design	5.2	21.5	6.7	<<	Extensive education and/or training may be required
Mathematics	9.2	20.1	14.5	<<	Extensive education and/or training may be required
Physics	4.3	18.4	13.1	<<	Extensive education and/or training may be required
Mechanical	6.8	16.0	7.3	<<	Extensive education and/or training may be required
Computers and Electronics	8.4	14.8	9.4	<<	Extensive education and/or training may be required
Building and Construction	4.0	13.8	3.0	<<	Extensive education and/or training may be required
Production and Processing	6.0	12.2	18.6	>>	Current knowledge level is likely more than sufficient
Chemistry	4.8	12.1	19.8	>>	Current knowledge level is likely more than sufficient
Food Production	2.1	11.4	15.9	>>	Current knowledge level is likely more than sufficient
Biology	3.7	11.0	16.8	>>	Current knowledge level is likely more than sufficient
Law and Government	5.9	10.2	10.0	0	Current knowledge level may be sufficient
Geography	3.9	9.2	4.7	<<	Extensive education and/or training may be required
Economics and Accounting	4.4	8.3	5.4	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 89

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Agricultural Engineers (17-2021)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Critical Thinking	10.8	15.0	13.3	<	A higher skill level may be required
Complex Problem Solving	9.1	14.2	12.3	<	A higher skill level may be required
Writing	9.2	14.2	13.2	0	Current skill level may be sufficient
Judgment and Decision Making	9.4	13.2	11.6	<	A higher skill level may be required
Mathematics	6.2	12.0	9.0	<<	Extensive development of skills in this area may be required
Systems Analysis	6.5	11.5	10.5	0	Current skill level may be sufficient
Systems Evaluation	6.4	11.5	9.7	<	A higher skill level may be required
Science	4.5	9.7	9.0	0	Current skill level may be sufficient
Technology Design	2.6	7.9	3.3	<<	Extensive development of skills in this area may be required
Management of Material Resources	3.7	6.3	3.6	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 98

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Agricultural Engineers (17-2021)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Written Comprehension	11.0	15.2	14.5	0	Current ability level may be sufficient
Written Expression	9.8	14.5	13.3	0	Current ability level may be sufficient
Inductive Reasoning	10.2	14.0	14.5	0	Current ability level may be sufficient
Deductive Reasoning	10.6	13.9	13.5	0	Current ability level may be sufficient
Problem Sensitivity	11.1	13.9	13.9	0	Current ability level may be sufficient
Category Flexibility	9.0	12.2	13.5	>	Current ability level is likely sufficient
Information Ordering	9.9	11.9	11.8	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	11.5	10.8	0	Current ability level may be sufficient
Number Facility	6.3	11.0	11.0	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 83

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Agricultural Engineers (17-2021)

Work Activities	Exclusivity of Activity
Advise clients or customers	19
Analyze engineering design problems	69
Analyze engineering test data	71
Analyze scientific research data or investigative findings	27
Collect scientific or technical data	30
Communicate technical information	4
Compile numerical or statistical data	38
Confer with engineering, technical or manufacturing personnel	25
Confer with research personnel	50
Confer with scientists	54
Develop or maintain databases	30
Develop plans for programs or projects	31
Develop policies, procedures, methods, or standards	21
Develop tables depicting data	33
Direct and coordinate scientific research or investigative studies	27
Direct implementation of new procedures, policies, or programs	60
Evaluate manufacturing or processing systems	68
Explain complex mathematical information	30
Perform statistical analysis	71
Plan scientific research or investigative studies	48
Prepare reports	8
Prepare technical reports or related documentation	22
Resolve engineering or science problems	46
Understand engineering data or reports	48
Use biological research techniques	68
Use computers to enter, access or retrieve data	3
Use government regulations	44
Use knowledge of investigation techniques	16
Use library or online Internet research techniques	21
Use mathematical or statistical methods to identify or analyze problems	30
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17
Write business project or bid proposals	48

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 71

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Agricultural Engineers (17-2021)

Tools and Technologies	Exclusivity
Computers	1
Content authoring and editing software	1
Industry specific software	1

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.